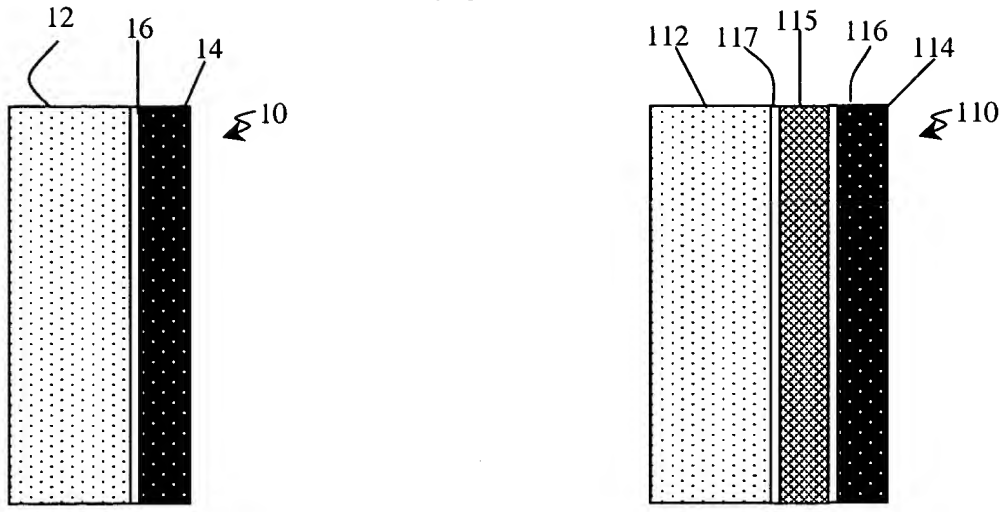
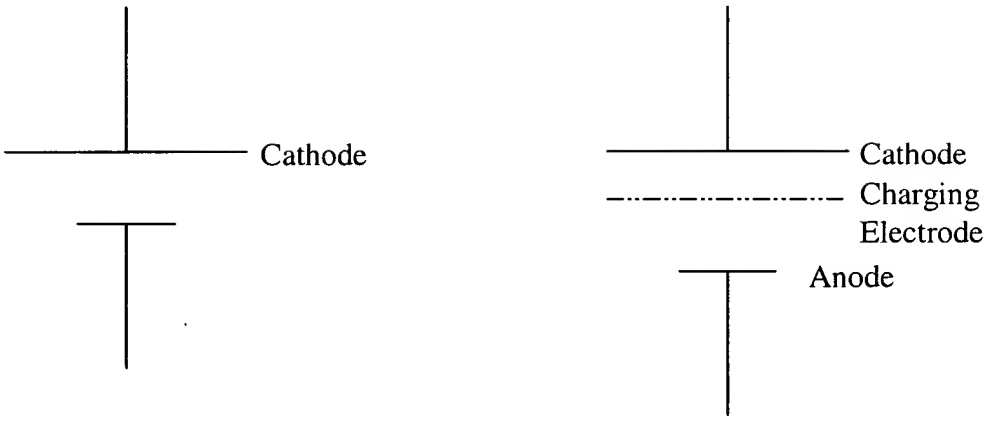


(a) **FIGURE 1** (b)



(a) **FIGURE 2** (b)

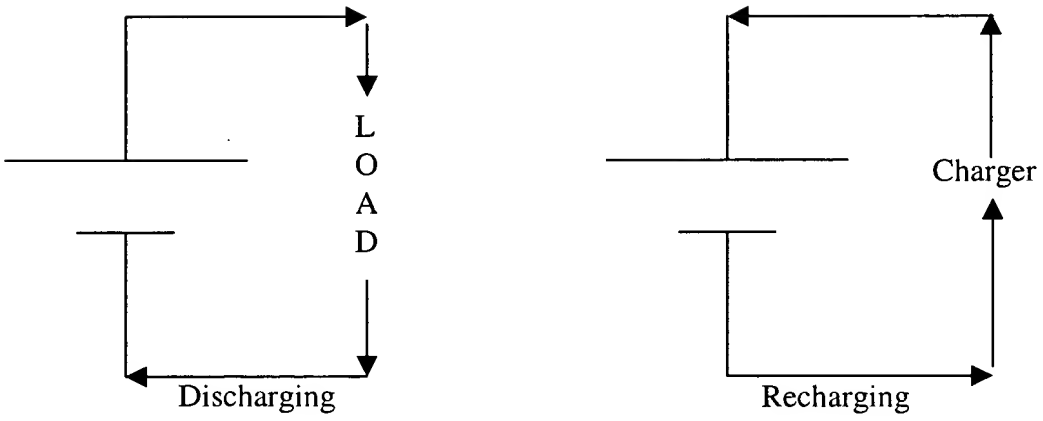


FIGURE 3

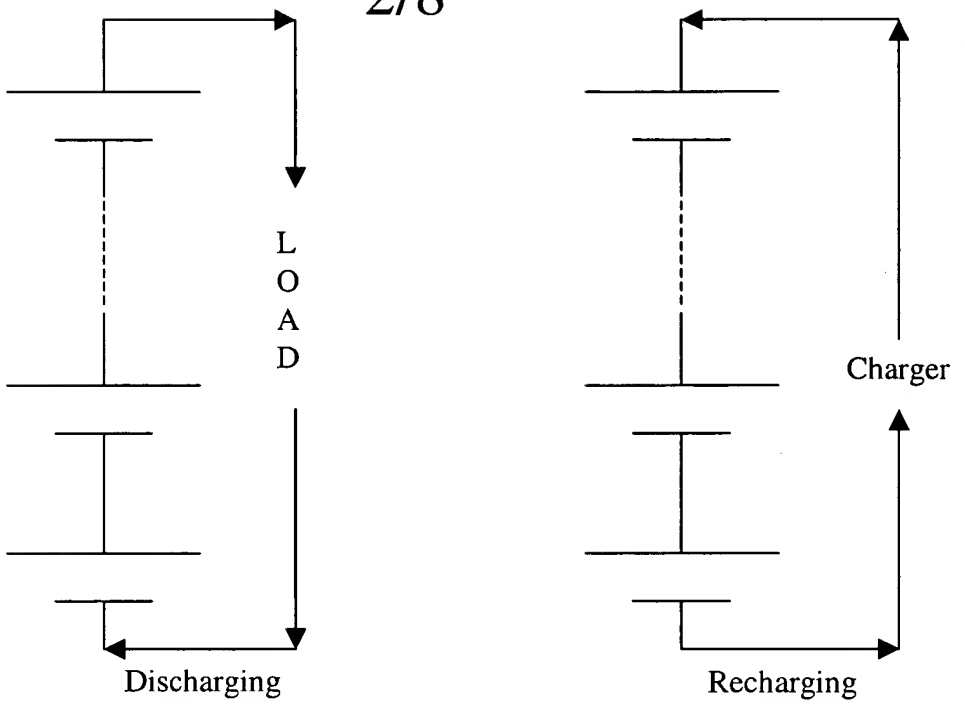


FIGURE 4

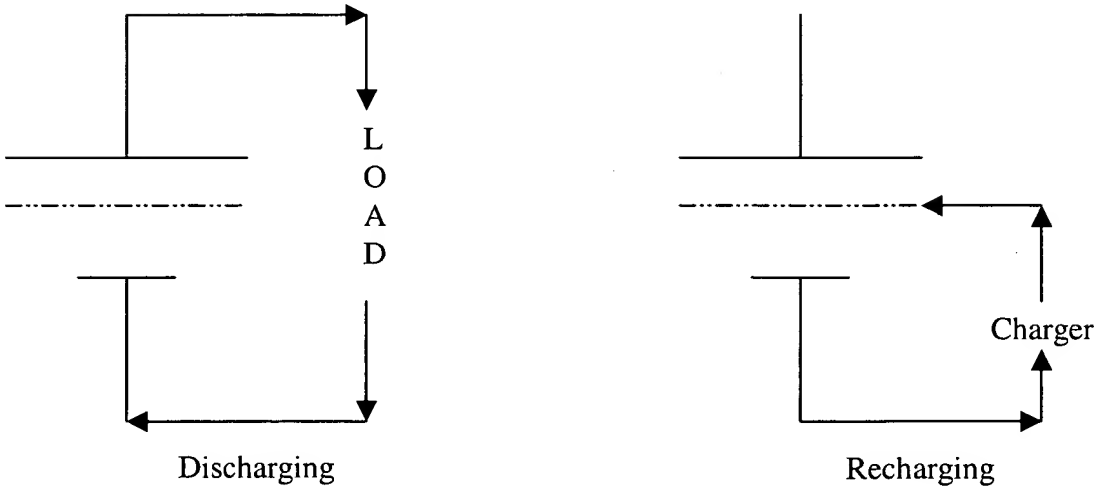


FIGURE 5

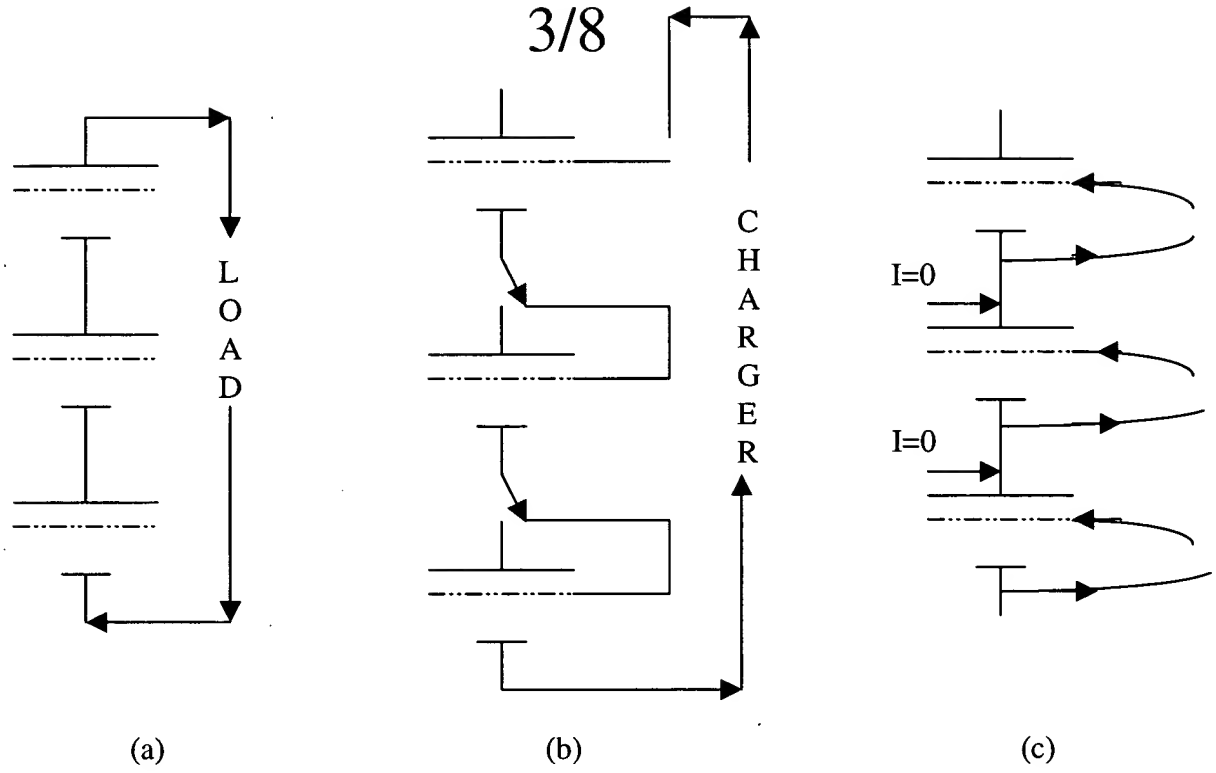


FIGURE 6

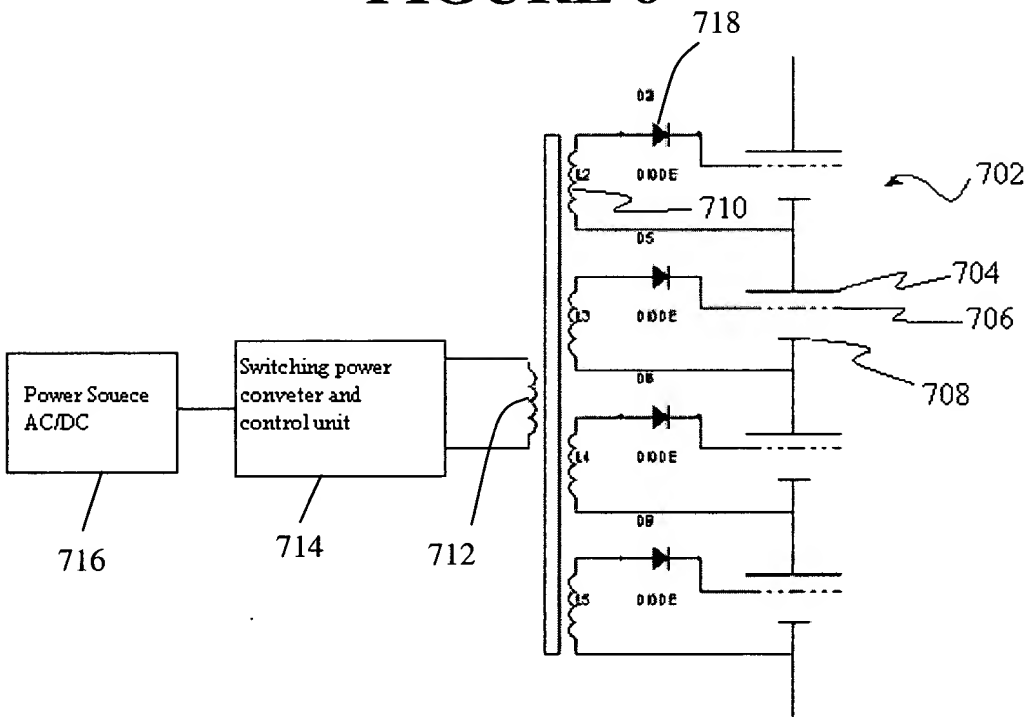


FIGURE 7

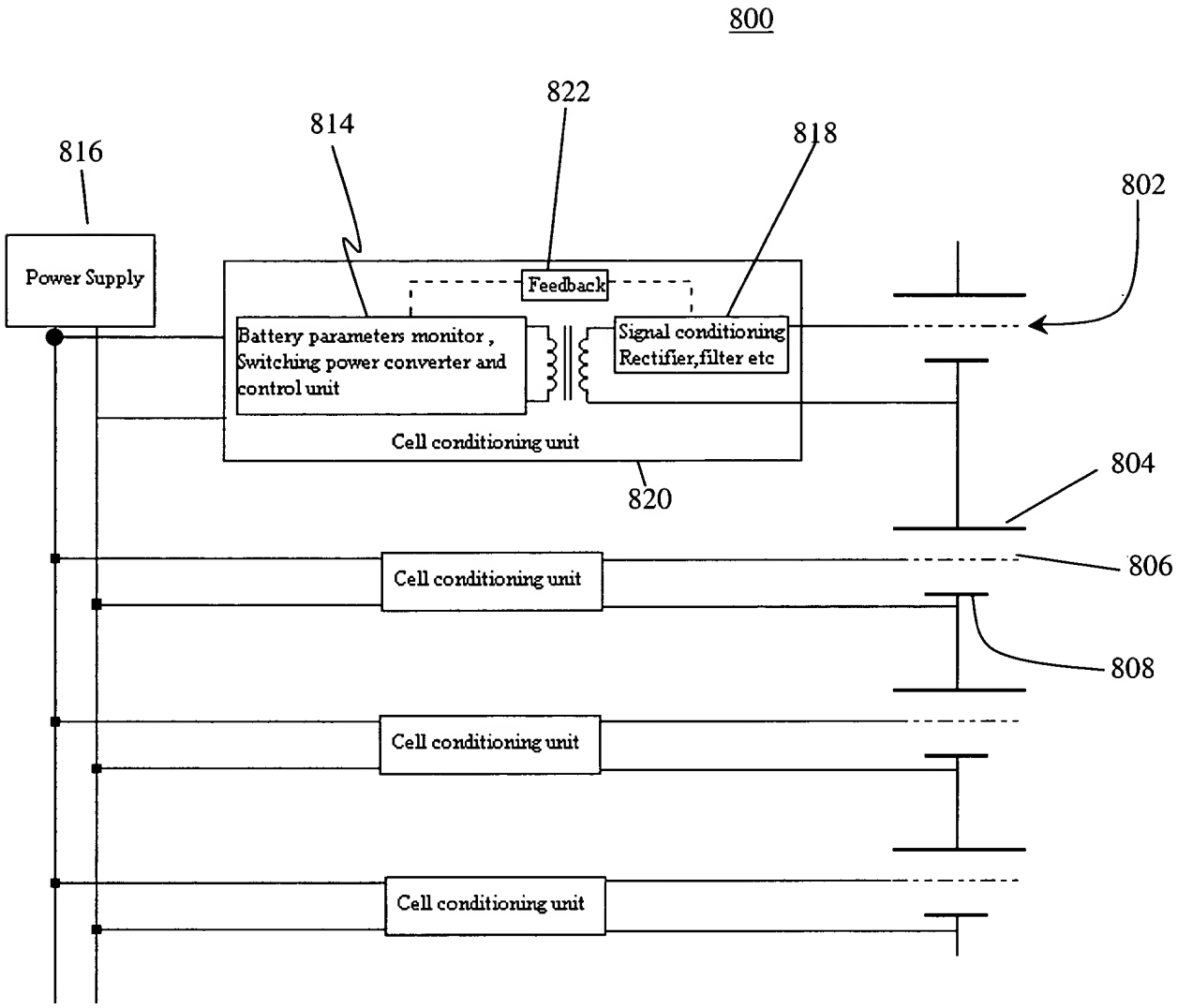
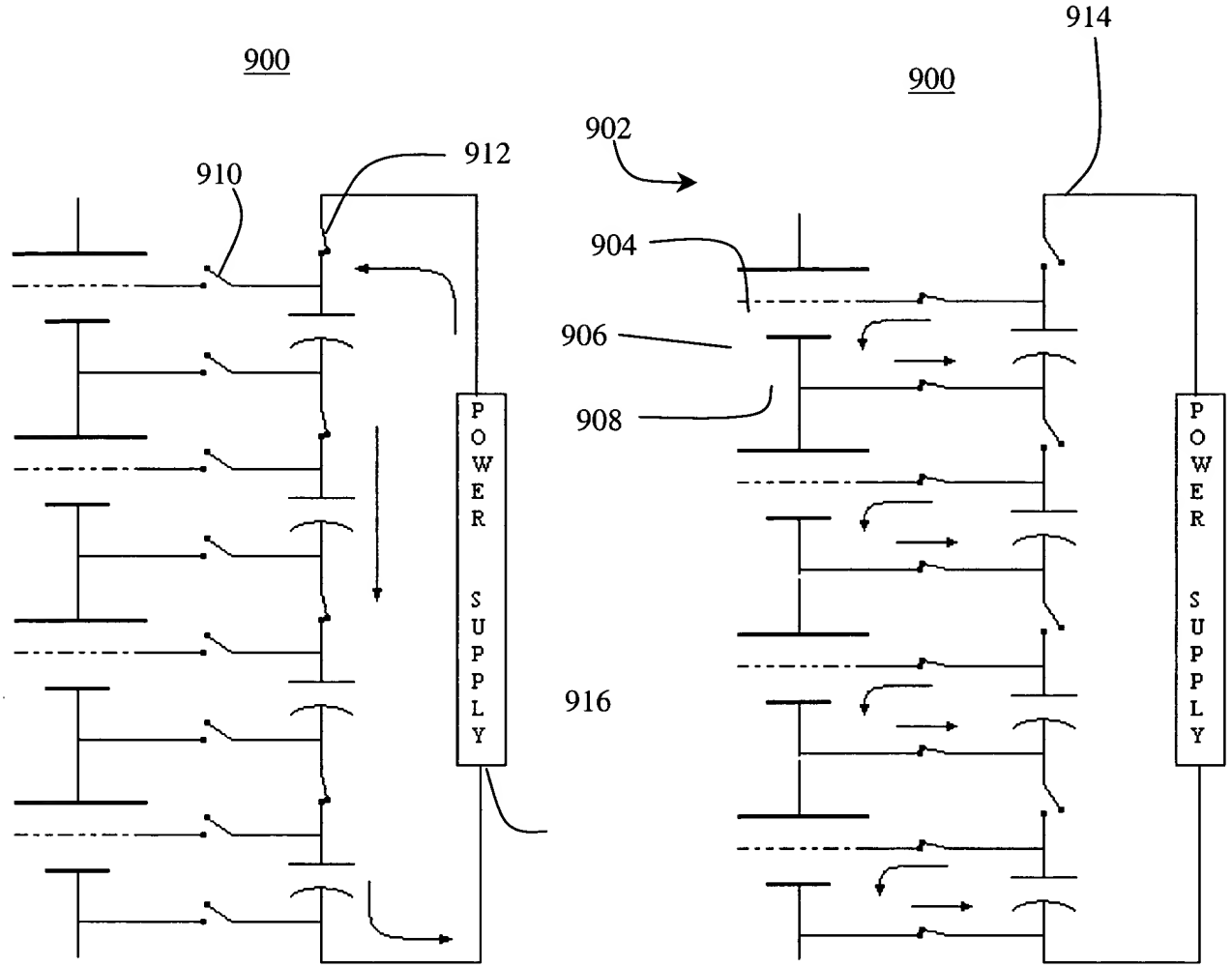

800
822
814
816
818
802
Power Supply
Feedback
Battery parameters monitor , Switching power converter and control unit
Signal conditioning Rectifier,filter etc
Cell conditioning unit
820
804
806
Cell conditioning unit
808
Cell conditioning unit
Cell conditioning unit

FIGURE 8


900
910
912
POWER SUPPLY
900
914
902
904
906
908
916
POWER SUPPLY

(a) (b)

FIGURE 9

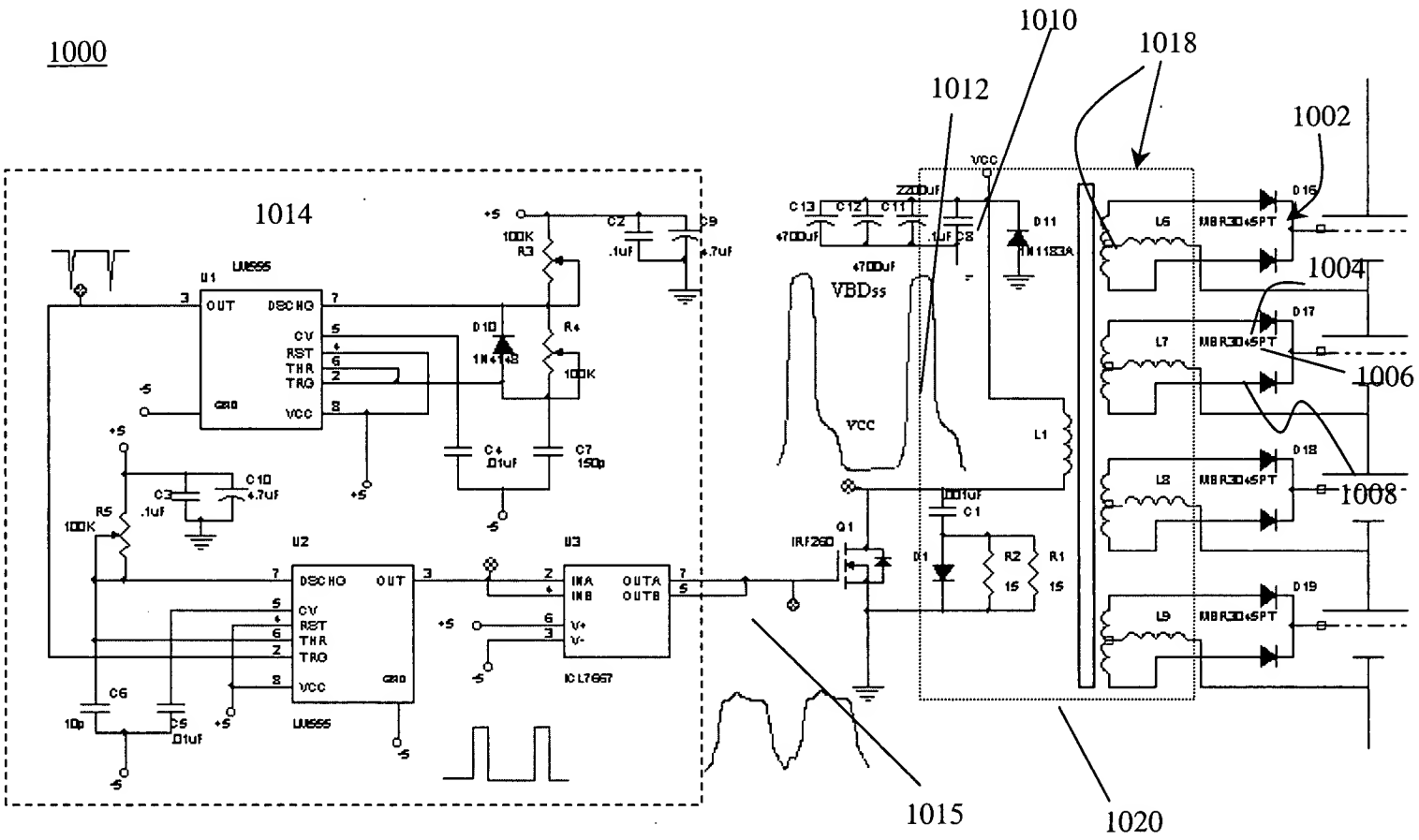

1000
1010
1018
1012
1002
1014
1004
1006
1008
1015
1020
VBDss
VCC
IRF260
ICL7667
LM555
MBR3045PT
1N4148
1N1183A

FIGURE 10

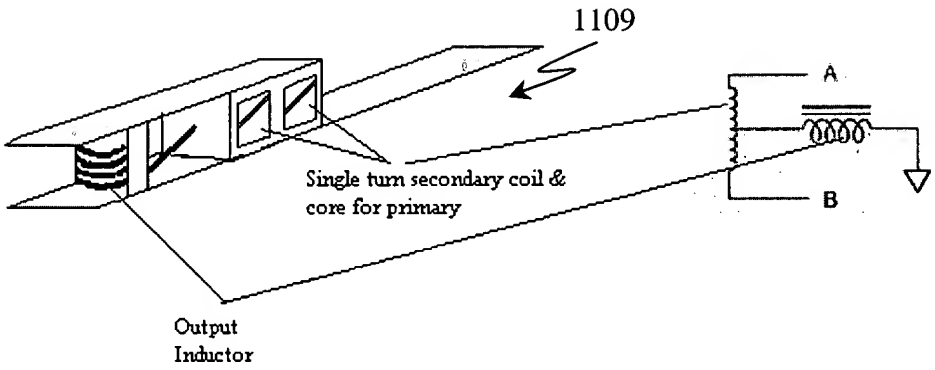


FIGURE 11

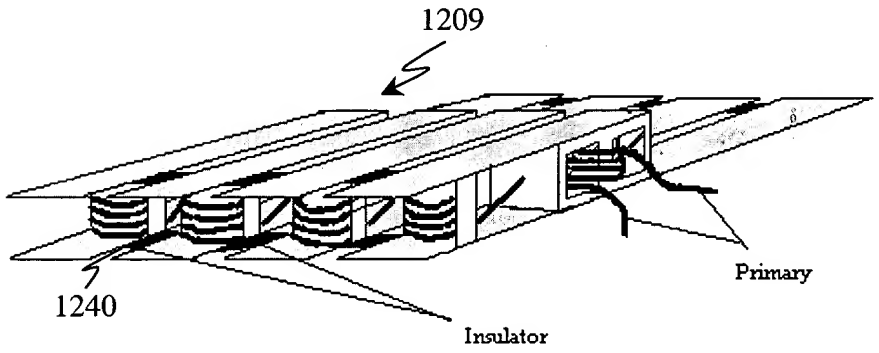


FIGURE 12

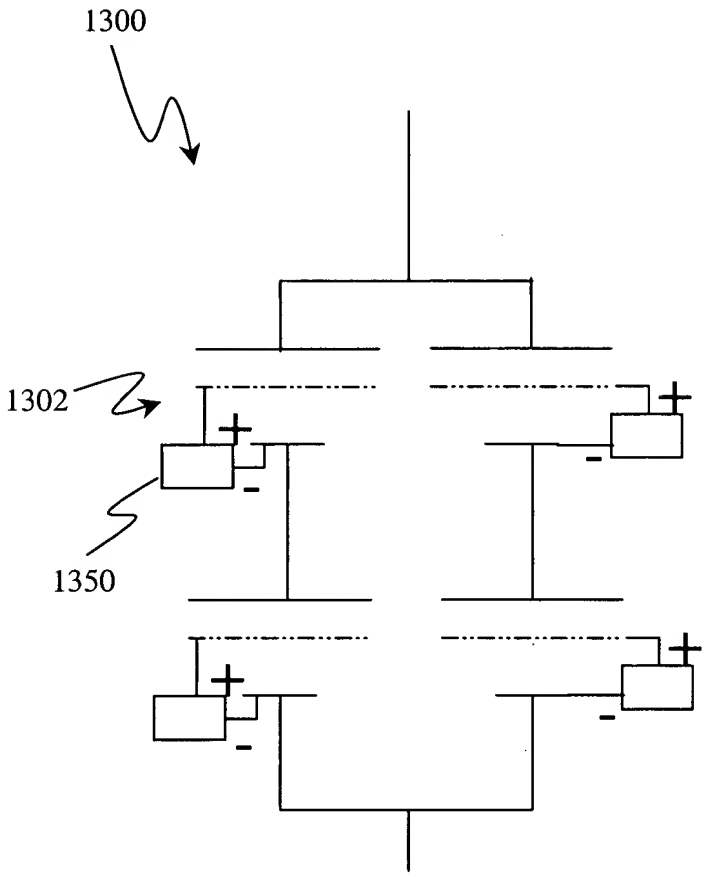


FIGURE 13